

Wichita Railroad Master Plan

City Council Workshop



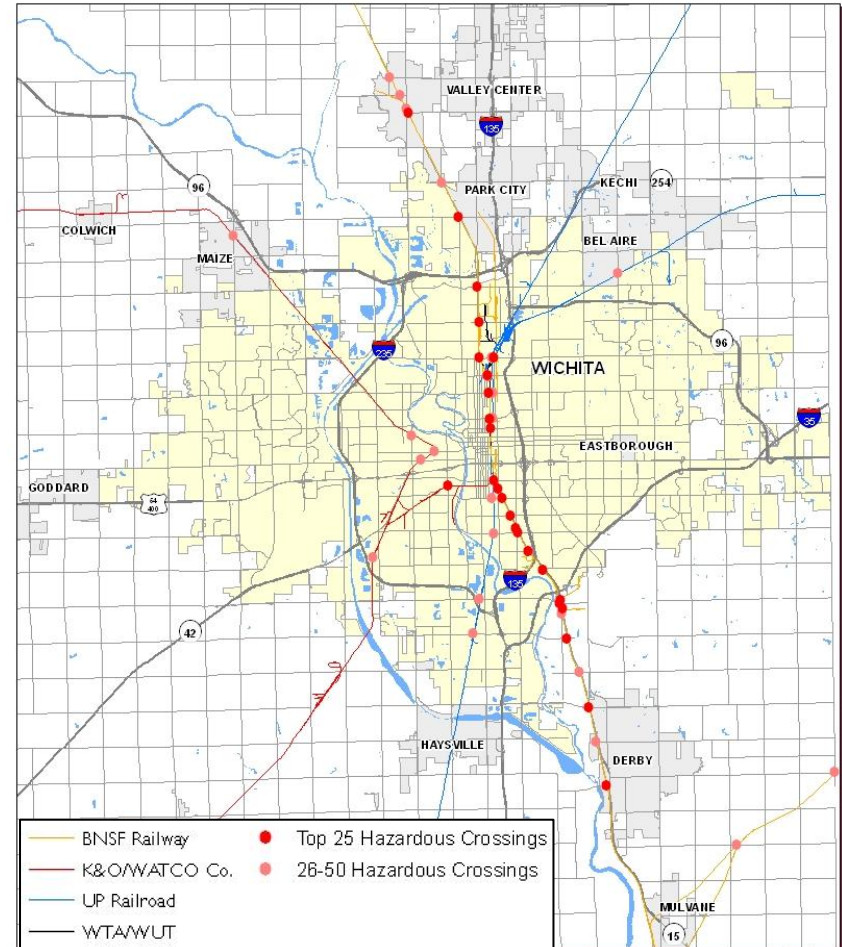
November 26, 2013



EXPERIENCE | Transportation

History

- **Merger of Union Pacific and Southern Pacific** (September 1996)
- **Wichita Rail Grade Separation Program** (Decision to Initiate 1998)
 - Central Corridor (Built–September 2009)
 - UPRR and Pawnee (Preliminary Design)
 - BNSF and Pawnee/Hydraulic (Study)
 - 21st Street (Study)
- **Wichita Railroad Master Plan is a Re-evaluation of Priorities** (Decision to Initiate 2009)



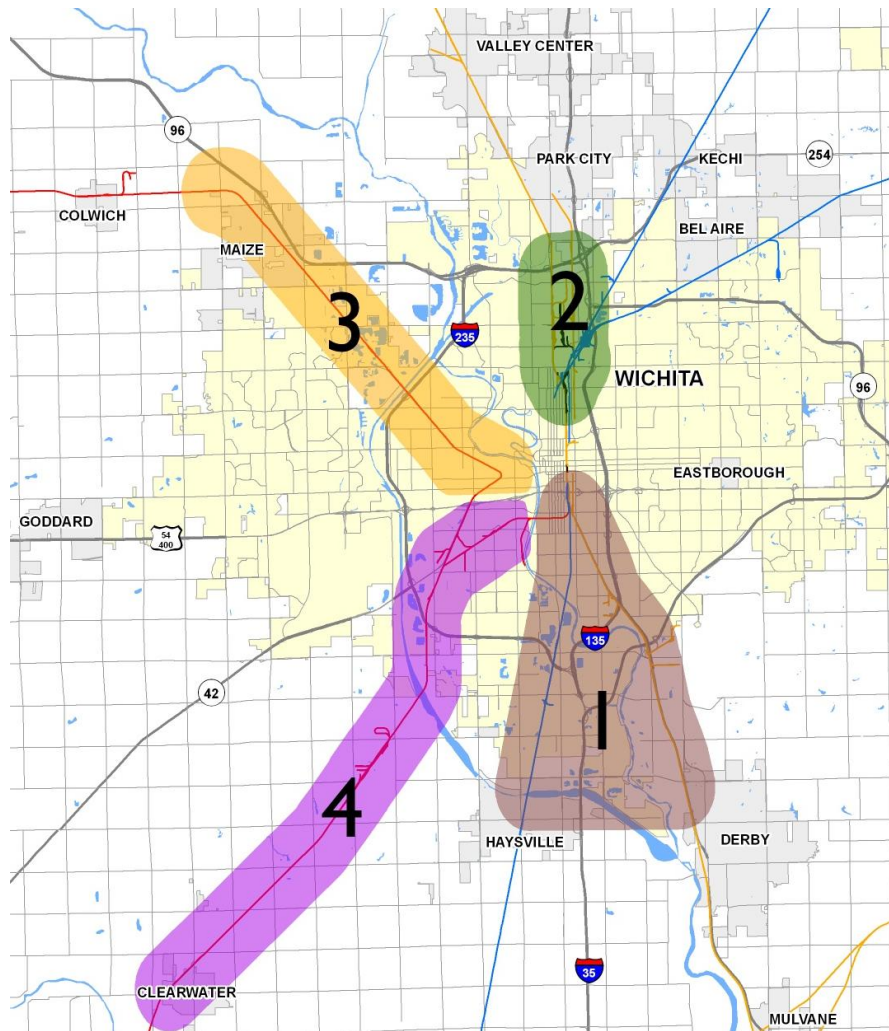
Master Plan Overview

The purpose of the Wichita Railroad Master Plan (WRMP) is to develop a coordinated, comprehensive master plan outlining achievable projects that will improve transportation mobility in Wichita for highway users and railroads (operators and customers).

Goals

- **Promote efficient Transportation Systems Management and Operation**
- **Enhance Transportation System Safety**
- **Support Regional Economic Vitality**
- **Protect the Environment and Promote Energy Conservation**

Study Area and Common Issues



- **Slow moving trains**
 - Creates delays with at-grade crossings
- **Feeling “unsafe” with trains**
- **Multiple at-grade crossings**
- **Noisy and dirty**
- **Transporting hazardous material**
- **Preferred Passenger Terminal Location**



Area 1 – Concept Developed

- **Elevate BNSF (single track expandable to double track)**
 - From north of Lincoln to south of Pawnee, 2.5 miles for \$120 million
 - This concept was advanced to the Tier II evaluation

PROJECT GOALS	Promote Efficient Transportation System Management and Operation – Rail	●
	Promote Efficient Transportation System Management and Operation – Highway	●
	Enhance Transportation System Safety	◐
	Protect the Environment and Promote Energy Conservation	◐
	Support Regional Economic Vitality	○



Area 2 –Concept Developed

► Relocate BNSF yard, grade separate 21st and 29th Street

- Project cost at \$100 million
- Access to local industries may change
- This concept was advanced to the Tier II evaluation

PROJECT GOALS	Promote Efficient Transportation System Management and Operation – Rail	●
	Promote Efficient Transportation System Management and Operation – Highway	●
	Enhance Transportation System Safety	●
	Protect the Environment and Promote Energy Conservation	●
	Support Regional Economic Vitality	●

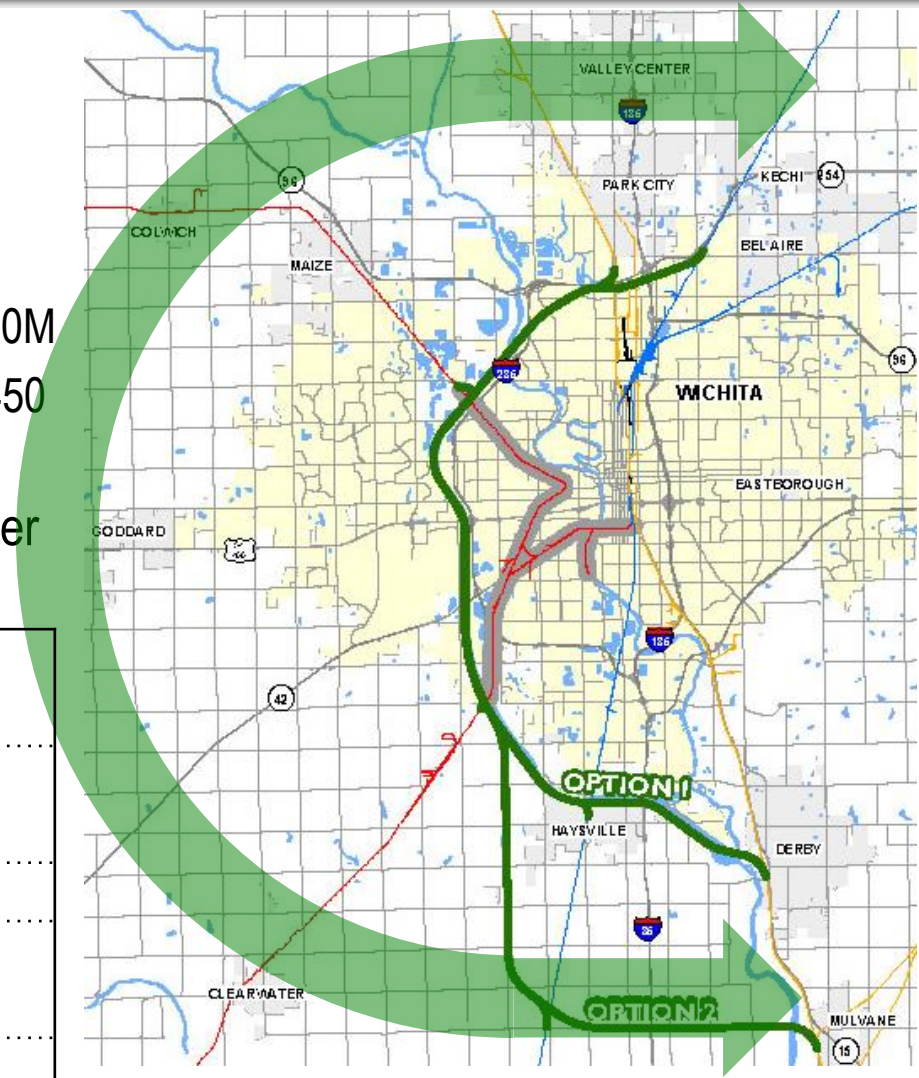


Areas 3 and 4 – Concepts Developed

► West Bypass – Relocate K&O

- Description – Single track with grade-separations as applicable
 - Inner Belt (26 to 33 miles) at \$300 to \$350M
 - Outer Belt (approximately 40 miles) at \$450 to \$500M
- This concept was not advanced to the Tier II evaluation

PROJECT GOALS	Promote Efficient Transportation System Management and Operation – Rail	○
	Promote Efficient Transportation System Management and Operation – Highway	○
	Enhance Transportation System Safety	◐
	Protect the Environment and Promote Energy Conservation	○
	Support Regional Economic Vitality	○



Tier II Evaluation – Benefit Cost Analysis

► Utilized TIGER Guidance

- Benefit-cost model identifies and monetizes the anticipated conditions with and without the projects over a 20-year period.
- Utilized a 3% and 7% discount rate.

► The benefits considered in this analysis include:

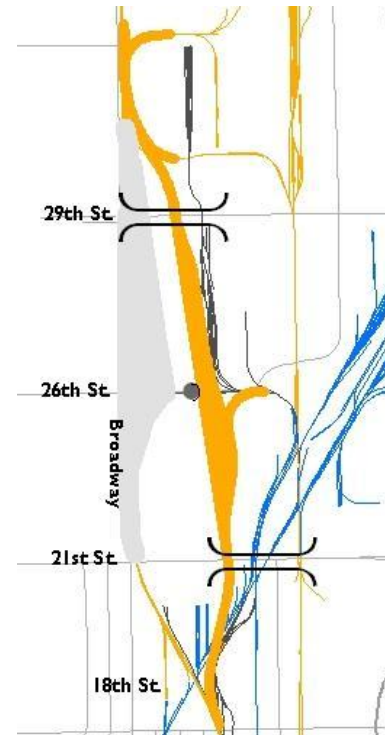
- Reduced Idling Time
- Reduced Fuel Consumption
- Reduced CO2 Emissions
- Fewer Grade Crossing Crashes
- Reduced Train Delay (Private Benefit)
- Salvage/Residual Value

Conclusion



➤ Area 1 – South Central

- Elevate BNSF 2.5 miles at \$120 million
- B/C Ratio = 1.4 (0.6 for public benefits only)
- Design cost estimated at \$12 million



➤ Area 2 – North Central

- 21st and 29th Street at \$100 million
- B/C Ratio = 4.7 (3.9 for public benefits only)
- Design cost estimated at \$10 million

Benefit Cost (B/C) Analysis

Grade Separate BNSF – North of Lincoln to South of Pawnee			
Description	Estimate (\$ in Thousands)	Discounted (3%)	Discounted (7%)
Area 1			
Net Benefits	\$232,536	\$160,954	\$105,368
Costs	\$117,302	\$117,302	\$117,302
Benefit-Cost Ratio		1.37	0.90
Area 1 without Private Benefits			
Net Benefits	\$109,940	\$72,362	\$44,542
Costs	\$117,302	\$117,302	\$117,302
Benefit-Cost Ratio		0.62	0.38
Elevate 21st and 29th Streets and Relocate BNSF Yard			
Description	Estimate (\$ in Thousands)	Discounted (3%)	Discounted (7%)
Area 2			
Net Benefits	\$637,415	\$446,490	\$296,227
Costs	\$96,090	\$96,090	\$96,090
Benefit-Cost Ratio		4.65	3.08
Area 2 without Private Benefits			
Net Benefits	\$532,747	\$370,854	\$244,296
Costs	\$96,090	\$96,090	\$96,090
Benefit-Cost Ratio		3.86	2.54

All Areas – Tier II Concepts Carried Forward

PROJECT AREA		AREA 1					AREA 2				Areas 3 & 4	
RAILROAD		BNSF			UPRR	BNSF UPRR	BNSF	UPRR	BNSF UPRR	BNSF UPRR	K&O	
PROJECT CONCEPTS		Pawnee and Hydraulic – Rail over Road	South of Lincoln to Pawnee – Rail over Road	North of Lincoln to South of Pawnee – Rail over Road	Pawnee – Road under Rail	Combined Corridor Concept	29th and Broadway Grade Separation	21st Relocation and Grade Separation	21st Relocation and Grade Separation	21st and 29th St Grade Sep. and BNSF Yard Relo.	Inner Belt Bypass	Outer Belt Bypass
PROJECT GOALS	Promote Efficient Transportation System Management and Operation – Rail	○	○	●	○	◐	○	○	◐	●	○	○
	Promote Efficient Transportation System Management and Operation – Highway	◐	◐	●	◐	○	◐	◐	◐	●	○	○
	Enhance Transportation System Safety	○	◐	◐	◐	◐	◐	◐	◐	●	◐	◐
	Protect the Environment and Promote Energy Conservation	○	◐	◐	○	○	○	○	○	◐	○	○
	Support Regional Economic Vitality	○	○	○	○	○	○	○	○	●	○	○
Pass through to Tier II		-	-	YES	-	-	-	-	-	YES	-	-

Passenger Rail

